F1-081

CALFED Proposal

From: Andy Peri
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I-001872

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CALFED GRANT APPLICATION

I. EXECUTIVE SUMMARY

a) PROJECT TITLE/APPLICANT
Mill Valley Watershed Steelhead Habitat Enhancement Program. The applicant is the Center for Ecoliteracy.

b) PROJECT DESCRIPTION AND PRIMARY BIOLOGICAL/ECOLOGICAL OBJECTIVES
To enhance the habitat of the steelhead fishery in the Mill Valley Watershed through:

- Flow augmentation
- Revegetation projects
- Community and school-based education
- Volunteer Monitoring

c) APPROACH/TASKS/SCHEDULE
Steelhead Restoration

a) Media Strategy
b) Flow augmentation
c) Revegetation Demonstration Project

Woody debris Management

a) Volunteer Monitoring
b) Stream flow monitoring
c) Water quality monitoring

Education

a) SWaMP- school based education
b) Interpretive signs
c) Watershed newsletter

Volunteer Monitoring

a) field data collection
b) data analysis, and synthesis
c) reporting and sharing results

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DWR WATER RIGHTS

d) JUSTIFICATION FOR PROJECT AND FUNDING BY CALFED

- The Arroyo de Corte Madera del Presidio, Old Mill Creek and Warner Creek are all priority habitats based upon Attachment B, item 4 of the CalFed RFP.
- Attachment B, item 6 (Priority Species or Populations section) lists steelhead trout as a priority species.

e) BUDGET COSTS AND THIRD PARTY IMPACTS
The total budget for this project is $74,800. The following is a basis break-down of project costs.

Salary and benefits	$57,300
Consultant fees	$10,400
Material acquisition	$ 4,200
Direct costs	$ 2,900
Total	$74,800

II. TITLE PAGE

a. PROJECT TITLE: Mill Valley Watershed Steelhead Habitat Enhancement Program.

b. APPLICANT/PRINCIPLE INVESTIGATOR:

Center for Ecoliteracy
2522 San Pablo Ave.
Berkeley, CA 94702
510 845 4595

Dominic Roques
1832 2nd St.
Berkeley, CA
510 644-0186

c: TYPE OF ORGANIZATION: The Center for Ecoliteracy is a 501-C-3 non profit *corporation.*

d. TAX ID: 94-2911417

e. TECHNICAL/FINACIAL CONTACT: Dominic Roques

Nobuko Yamada
Center for Ecoliteracy
2522 San Pablo Ave.
Berkeley, CA 94702
510 845 4595

PARTICIPANTS/ COLLABORATORS

Dominic Roques- Principle Investigator
Andy Peri- Field Representative
Fred Euphrat- Technical Oversight
Nobuko Yamada- Financial Officer
Marin Municipal Water District and Flood Control District
Mill Valley Department of Public Works
Mill Valley Department of Parks and Recreation
Mill Valley School District
Marin County Flood Control District
Sewerage Agency of Southern Marin
Marin County Stormwater Pollution Prevention Program
San Francisco Estuary Institute (Bay Area Regional Watershed Network)
San Francisco Bay Area Steering Committee for Volunteer Monitoring
Marin Municipal Water District
Mill Valley Watershed Project Volunteers

RFP TYPE: Services/consulting/preconstruction/research

Effectiveness Monitoring

- ***Flow Finders***

Effectiveness of flow augmentation will be monitored through the Flow Finders program. MVWP will establish a data link with the USGS stream gauge to collect data on stream flow. Gauging station modifications will permit measurement of low flow conditions which are not accurately determined with current gauge configuration.

- ***Revegetation Demonstration***

We will conduct routine inspection of revegetation sites to monitor rooting success and plant vigor. We will also develop temperature profiles for revegetated areas.

- ***Woody Debris Management***

We will verify goal attainment through annual woody debris surveys of Warner Creek.

- ***Fin Finders***

Fin Finders is MVWP's continuing effort to find fish in the streams of Mill Valley. A published phone number allows volunteers to call and report fish sightings. This encourages people to go to and experience creeks and contributes to our broader public awareness objectives.

Water Quality Monitoring

The MVWP will provide assistance to parties engaged in monitoring basic water quality parameters in the Mill Valley Watershed.

3. Education

SWaMP

The implementation model for our School-based Watershed Monitoring Program (SWaMP) is based on continually inquiring about and observing, naturally occurring and induced changes in the watershed, and on choosing actions to protect and restore the watershed collaboratively with the schools and the community. Ongoing activities of SWaMP include: water quality monitoring, vegetation removal and surveys, creek clean-ups, stormdrain stenciling, and stream surveys. The SWaMP program also trains parents and volunteers who assist teachers in class management during monitoring events.

Stormdrain Stenciling

The stormdrain stenciling program will continue both as a project of SWaMP (see below) and as a joint partnership comprised of the Mill Valley Watershed Project, the City of Mill Valley and county stormwater program MCSTOPPP.

Interpretive Signs

This program is intended to lessen the impacts on heavily used areas in or adjacent to the creek. Signs that contain information about sensitive habitats, vulnerable stream banks, and high erosion areas, etc. will be placed near sensitive areas to help inform community members and lessen their impact on Mill Valley's creeks.

Newsletter

A quarterly newsletter will be prepared for distribution to the general public and project participants. The newsletter will present findings of watershed studies, announce events, and provide an update to advisors and interested public on the status of the MVWP. The newsletter will also solicit contributions for funding Project activities.

b) LOCATION AND/OR GEOGRAPHIC BOUNDARIES OF PROJECT

Project location is the watershed of the Arroyo de Corte Madera del Presidio, in the communities of Mill Valley, Homestead Valley, and the unincorporated Lomita Drive area (Map: attachment 1).

c) EXPECTED BENEFIT(S)

Primary benefits from these projects include increased summer flows of water and enhanced low-flow habitat for steelhead trout. Priority Habitats include: shaded riverine aquatic habitat; Priority Species: Steelhead trout. Broader secondary ecosystem benefits will result from increased awareness within community regarding nonpoint source pollution and water conservation.

d) BACKGROUND AND BIOLOGICAL/TECHNICAL JUSTIFICATION

October 1994 marked the inception of the MVWP as a community-based watershed group. The administration of the Project was conducted from July 1995 through August 1996 by a full-time, salaried project manager based at the San Francisco Estuary Institute's facilities in Richmond, California.

The principal outcomes of Phases I and II of the project were a program of organized community participation, increased awareness of the watershed among the residents of Mill Valley, and the collection and interpretation of data about the watershed through monitoring and surveying. Project accomplishments during the first two years are detailed below in the Section V.

Under the scope of work proposed here, the Project would continue to build on these earlier accomplishments by expanding the School-based Watershed Monitoring Program (SWaMP) and by using the results of the stream survey and previous studies to implement an Action Plan to target specific actions of habitat restoration, enhancement, and protection in the stream zones of the watershed.

The technical justification for the proposed actions derives from three sources: a fish habitat survey conducted by a fisheries consultant, a baseline stream survey conducted by volunteers, and findings from a community workshop series.

Findings from Baseline Stream Survey

The survey collected quantitative data on 18 unique parameters from the water, the channel, and the riparian zone. In addition, a scaled map was produced at each 200-foot survey section, and a qualitative survey observation form completed between sample locations. Fifteen percent of the entire stream system (below undisturbed headwater areas) was sampled between July 1996 and March 1997 by trained volunteers using a protocol developed by watershed consultants specifically for Mill Valley. The survey revealed several important features of the watershed's streams that are critically important to a viable steelhead fishery.

Additional baseline findings of the survey will allow comparison to future conditions affected by restoration projects to be undertaken with funds from this grant. A significant outcome of the survey was the community participation confirming a willingness on the part of volunteers to actively participate in stream work. The average volunteer spent 20 hours on the survey for a total of 400 volunteer hours.

Findings from Fisheries Consultant Report

A report completed May 31, 1995 by Alice A. Rich, Ph.D. provided life stage and habitat information on Mill Valley Watershed fish, offered a historical perspective of resource conditions, assessed the existing fishery condition (electrofishing and habitat surveys), and identified the limiting factors for fisheries in the watershed. The historical review indicates that the decline of the fishery resulted from the cumulative effects beginning in 1834 stemming from logging, summer dams, water diversions, reservoirs, reduction of wetlands, channelization of the creeks, impervious coverage of portions of the valley floor, together with a history of alternate drought and flood condition. CDF&G surveys in 1963 and 1965 recommended the creeks be maintained for steelhead trout (Cully, 1965; Brackett, 1963).

Arroyo Corte Madera del Presidio (mouth upstream to the center of town) consists mostly of channelized habitat and is probably used primarily as a migration corridor for salmonids. Most rainbow/steelhead trout were young-of-the year and one-year olds, although there were also probably two and three year olds, as well, in Old Mill Creek. The report concludes that with a great deal of citizen involvement and additional analysis, it appears feasible to improve habitat conditions in the creeks of the watershed. Although the highest salmonid populations were in Arroyo Corte Madera, the high density was a result of stranding of fish, pointing to the limiting factor controlling both fish abundance and diversity: lack of water.

Findings from Community Workshops

Workshops conducted in December 1995 provided historical anecdotes, use patterns of creek (community relationship to creek), information on adjacent land uses affecting the creeks, wildlife habitat and sightings of wildlife, observed human impacts to creeks, and potential obstructions to

Conduct Survey
a) Organize survey team from volunteer base (Andy Peri)
b) Acquire space for classroom portion of trainings (Andy Peri)
c) Acquire equipment needed for flow protocol (Andy Peri)
d) Calibrate equipment (Andy Peri & Dominic Roques)
e) Hold three survey training sessions (Andy Peri)
f) Schedule volunteers to conduct surveys (Andy Peri)
g) Conduct field surveys (Andy Peri)
h) Data collection, analysis and input into a database/GIS (Andy Peri)

Training on GPS
a) Print materials for GPS training (Andy Peri)
b) Invite volunteers and Marin County watershed groups to training (Andy Peri)
c) Hold four trainings on the principals and use of our GPS unit (both in the class and in the field) (Andy Peri)

Design Strategy based on findings
a) Analyze data for vegetation and woody debris condition (Andy Peri, Dominic Roques)
b) Conduct data review (Andy Peri & Dominic Roques)
c) Based on survey findings prepare recommendations for woody debris and vegetation management for golf course managers and neighborhood creek watchers (Andy Peri, Dominic Roques)

2. Volunteer Monitoring
Effectiveness Monitoring
Flow Finders
a) Establish a data link with the USGS stream gauge for data on flow (Andy Peri)
b) Recalibrate and conduct weir maintenance (Andy Peri)
c) Attach staff gauge to station for volunteer visual flow recording (Andy Peri)
d) Develop monitoring schedule and conduct volunteer training (Andy Peri)
e) Field data collection (Andy Peri)
f) Data analysis, and synthesis (Andy Peri)
g) Reporting and sharing results (Andy Peri)

Revegetation Demonstration
a) perform pre-project temperature profile and conduct post-project monitoring (including photo points) (Andy Peri, Dominic Roques)
b) recruit volunteers for site monitoring (Andy Peri)

Woody Debris project
a) Conduct annual woody debris survey (MVWP Volunteers, Andy Peri)

Fin Finders
a) Maintain records of citizen fish sightings (Andy Peri)

Water Quality Monitoring
a) Equipment maintenance and calibration (Andy Peri)
b) Quality assurance and quality control in data collection (Andy Peri)
c) Assistance to volunteers in data management and interpretation (Andy Peri)
d) Integration State Volunteer Monitoring Protocols (Andy Peri)

3. Education
SWaMP Equipment
a) Purchase & distribute monitoring equipment (Andy Peri)
b) Periodically test and calibrate monitoring equipment (Andy Peri)

IV. COSTS AND SCHEDULE

a) Budget costs
The following budget table presents a task by task breakdown of expenses for the project over a two-year period commencing in October of 1997. The largest portion of project expenses are for the field representative's labor. Funding for staff support continues to be the key limitation to the success of community-based watershed groups. The field coordinator serves to leverage volunteer commitment toward specific, well-designed activities that advance ecosystem restoration. Without the resources of a coordinator, many groups flounder and lead volunteers to the frustration of incomplete projects. The MVWP has succeeded in part because of our ability to provide consistent leadership. Consistent staff support also enables the products and experience of the MVWP to be more broadly shared at the regional scale as the field representative will sit on associated environmental task forces, steering committees, and an informal watershed coordination forum for Marin County. The costs of participating in the larger community of watershed groups is built into the tasks identified in the budget table. The coordination provided by the field representative, when supported by technical consultants working at reasonable rates ($40/hr), enables the community, stormwater managers, and City departments to achieve their selected goals of habitat restoration, watershed awareness, and nonpoint source control.

Two consultants are serving the project in technical areas and will collect a fee for specific services identified in the budget table. Dominic Roques and Fred Euphrat will serve as Principal Investigator and Technical Advisor, respectively. Project Management costs are included as separate costs, beyond other direct costs in the budget table to indicate the administrative requirements of running the project. Materials and equipment costs are a relatively small portion of the budget since much of our equipment has already been purchased or donated, and we expect additional donations of plant materials for revegetation, contest awards, and monitoring equipment.

The costs of overhead, materials and supplies are reduced considerably by the fact that the field representative uses a home office. Also, funds awarded by the County's stormwater program for SWaMP are being used to offset costs of document reproduction and purchase of monitoring supplies. Anticipated expenses for the project include on-going costs (postage, Project voice mail) as well as some occasional expenses (e.g. travel, office supplies, event space rentals, Federal Express, document reproduction, printing of letterhead and envelopes, photography, entertainment/refreshments).

b) Schedule milestones
See attached table.

c) Third party Impacts
There are no anticipated third party impacts for projects related to this proposal.

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b) Schedule Milestones

		1997	1998	1998	1998	1998
	Milestones/ Tasks	October 1st-December 31st	January 1st-March 31st	April 1st- June 30th	July 1st-September 31st	October 1st-December 31st
Steelhead Restoration	Media Strategy and Watershed Assessment Results	Complete report on survey findings	Contact Media; *Report findings to* media		Publicize winners of poster contest	Press release *of summer's* findings
	Flow Augmentation	Poster contest design. Package disign.	Contact schools, teachers, community artists & local business. Contest kick-off	Contact business for prizes	Awards Ceremony. Display winner throughout business district of Mill Valley.	
	Revegetation Demonstration Project Design	Determine revegetation requirements.	Complete revegetation design plan. Organize volunteers and design monitoring plan	Select and purchase plants. Conduct plantings. Map and photodocument project.		
	Woody Debris Management-Survey	Design flow protocol.	Field test protocol. Make changes and insert into MVWP survey manual.	Design and reproduce protocol. Aquire and test equipment. Field and lab test new GPS unit	Hold trainings on protocol and GPS use. Schedule surveyors.	Continue GPS training and conduct survey.

b) Schedule Milestones

	Milestones/ Tasks	1997 October 1st-December 31st	1998 January 1st-March 31st	1998 April 1st- June 30th	1998 July 1st-September 31st	1998 October 1st-December 31st
Volunteer Monitoring-	Flow Finders	Establish data link with USGS flow gauge. Recalibrate gauge and conduct weir maintenance.	Install staff gauge for volunteer monitoring. Develop monitoring schedule.	Begin field data collection.	---------->	---------->
	Revegetation Demonstration Project				Begin Monitoring of revegetation site.	Quarterly monitoring event.
	Woody Debris Management- Project					
	Fin Finders	Maintain Fin Finders program	---------->	---------->	---------->	---------->

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b) Schedule Milestones

		1997	1998	1998	1998	1998
	Milestones/ Tasks	October 1st-December 31st	January 1st-March 31st	April 1st- June 30th	July 1st-September 31st	October 1st-December 31st
Volunteer Monitoring (cont.)	Water Quality Monitoring	Ongoing equipment maintenance and calibration. Ongoing QA/QC in data collection. Integration of State Volunteer Monitoring Protocols.	---------->	---------->	---------->	---------->
Education-	SWaMP Program. (Monitoring Equipment)	Purchase and distribute equipment and equipment calibration on an as-needed basis.	---------->	---------->	---------->	---------->
	SWaMP Workshops	Update existing SWaMP course materials. Plan workshop curriculum.	Conact speakers for workshop. Plan and Hold SWaMP Workshop		Update existing SWaMP course materials. Plan workshop curriculum.	Contact speakers for workshop. Plan and Hold SWaMP Workshop
	SWaMP Stormdrain Stenciling	Acquire safety equipment and develop MVWP stormdrain stenciling fact sheet. Help City of Mill Valley Develop and acquire stormdrain maps	Procure more stenciling equipment and provide stenciling trainings.	Begin Spring/Summer stenciling program	---------->	---------->
	Interpretive Signs	Indentify, high use, highly impacted sites	Gain city approval of program. Design signs.	Have signs made.	Install signs.	
	Newsletter	Design newsletter. Write and distribute newsletter.	Write and distribute newsletter.	Write and distribute newsletter.	Write and distribute newsletter.	Write and distribute newsletter.

V. APPLICANT QUALIFICATIONS

Planned Organization and Staff
The Applicant Agency is the Center for Ecoliteracy. The Center is dedicated to fostering ecological literacy—the understanding and practice of the principles of ecology, the "language of nature"—through educational activities and a grant-giving program. Through these activities, the Center addresses the challenge of creating social and cultural environments in which we can satisfy our needs and aspirations without diminishing the chances of future generations. The principles of ecology are applied as guiding principles of organization for creating sustainable learning communities, offering an ecological framework for education reform.

The Center for Ecoliteracy provides logistical, administrative and financial support to the Mill Valley Watershed Project (MVWP). The MVWP creates and sponsors education programs and events that raise awareness of the effect people and land use have on the health of the watershed. It combines scientific and citizen volunteer monitoring in targeting appropriate watershed enhancement projects. The MVWP will provide technical expertise, training, volunteer coordination, and monitoring support for implementation of Project goals.

The Mill Valley Watershed Project has a demonstrated capacity to design and implement the activities of a community based watershed group. We have been awarded three grants from the Center for Ecoliteracy totaling $138,000, and one grant from the County Stormwater Program (MCSTOPP) for $2,400 since we formed in 1994.

Accomplishments
We have made strides toward the goals identified in September 1994:

- Increase community awareness and knowledge of the Mill Valley Watershed as an ecological system whose vitality, stability, and productivity is a function of peoples' actions in the watershed,
- Involve the community in the process of selecting, designing, and implementing projects that accomplish two goals: 1) increase community awareness and knowledge of the watershed, and 2) improve conditions for the steelhead fishery. *(MVWP Phase I: Planning and Evaluation, 1994)*

Public Education
The MVWP has sponsored events aimed at raising public awareness about watershed health and the problem of non-point source pollution, held educational lectures on natural and cultural qualities of the watershed, and attracted the media attention to the issue of watershed protection. Our activities have included:

- Lecture Series: The role of water quality and flood agencies in watersheds, historical ecology of the Bay margin, Moonlight Marsh Walk with Josh Collins, Larry Fishbain on stream restoration, Vince Resh on Aquatic Insects and Biological Monitoring, Doris Sloan on Geology of the Watershed, Malcolm Margolin on cultural history. Total attendance at these lectures was approximately 200 people.
- Watershed Walk: Over 100 people attended our tour of the watershed and learned about its natural and cultural resources.
- Fin Finders: started observation monitoring program to characterize fish migration.
- Watershed Map: a first-ever, accurate map of the Mill Valley Watershed and all the creeks.
- *Marin Independent Journal and Pacific Sun* feature articles highlighting the goals and actions of the MVWP.

School-based Education
School-based education about watersheds and ecology is supported and facilitated by the MVWP. In addition to the assistance and participation offered by the Project to teachers in the Mill Valley

Organizational Infrastructure
Since its inception three years ago, the MVWP has developed the infrastructure of a small organization, including both connections to the community, and the equipment needed to conduct business. Our recruitment of an Advisory Board, compilation of the Outreach Database, adoption of a Statement of Goals and Principles, and Community Workshops were fundamental aspects of organization building within the Mill Valley community. Some of the physical resources now located in our office include: office furniture and supplies, computer and software, a Project library, and monitoring equipment, including a Trimble Navigation Global Positioning System.

Individuals Responsible for Technical, Administrative and Project Management

Name: Nobuko Yamada
Qualifications: Administrative Director for the *Center for Ecoliteracy*. Ms. Yamada been the financial officer for the Center since 1995.
role in project: Ms. Yamada will administer Calfed funds received under this grant.

Name: Andy Peri
Qualifications: Mr. Peri has been the MVWP Project Field Representative for the past year. In that capacity he successfully coordinated volunteers in implementing the MVWP stream survey. He has two years experience with the Regional Water Quality Control Board developing a Geographical Information System for the Leaking Underground Storage Tank program. He is trained in the use of GIS and GPS. He is currently completing a Master's Degree in Geography with an emphasis in Land Use Management and Environmental Planning. Course work completed in: Environmental Management, Water Resources, Geographic Information Systems (Arcinfo & Idrisi), Restoration Ecology (emphasis on wetland science and ecology), Geomorphology, Sediment and Erosion Control (workshop), and Site Planning & Design (workshop).
role in project: Field Representative

Name: Dominic Roques
Qualifications: Consultant in Community-Based Watershed Management and Sustainable Forestry; over seven years of experience in environmental assessment and restoration. Mr. Roques designed and implemented the MVWP, Mill Valley's first community-based watershed awareness program as a consultant to the *Center for Ecoliteracy*.
role in project: Project Director. Mr. Roques will manage the project and provide key tecnical support on hydrology and watershed management issues.

Name: Fred Euphrat, Ph.D.
Qualifications: Professional watershed resource consultant and educator. Dr. Euphrat has conducted community trainings on stream surveying, sediment management, and forest ecology in Northern California, and has provided technical oversight for the Mill Valley Watershed Project.
role in project: Technical review of protocols for surveying and monitoring; instructor in trainings.

Collaborators and Partners
Mill Valley Department of Public Works
Mill Valey Department of Parks and Recreation
Mill Valley School District
Marin County Flood Control District
Sewerage Agency of Southern Marin
Marin County Stormwater Pollution Prevention Program
San Francisco Estuary Institute (Bay Area Regional Watershed Network)
San Francisco Bay Area Steering Committee for Volunteer Monitoring
Marin Municipal Water District

Item 8

NONDISCRIMINATION COMPLIANCE STATEMENT

CENTER FOR ECOLITERACY
COMPANY NAME

The company named above (hereinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code of Regulations, Title 2, Division 4, Chapter 5 in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, disability (including HIV and AIDS), medical condition (cancer), age, marital status, denial of family and medical care leave and denial of pregnancy disability leave.

CERTIFICATION

I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.

DOMINIC ROQUES
OFFICIAL'S NAME

7/25/97
DATE EXECUTED

EXECUTED IN THE COUNTY OF
ALAMEDA

NOT KNOWN
PROSPECTIVE CONTRACTOR'S SIGNATURE

PROSPECTIVE CONTRACTOR'S TITLE

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

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